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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,814	08/13/2001	Klaus Wilbuer	SWR-0055	4734

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EXAMINER

UHLIR, NIKOLAS J

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 05/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,814

Applicant(s)

WILBUER ET AL.

Examiner

Nikolas J. Uhler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 5-45 is/are pending in the application.
- 4a) Of the above claim(s) 6-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5 and 45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 04/17/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the amendment/request for continued examination dated 04/07/2004. The applicant's amendments and arguments have been fully considered but are not persuasive in overcoming the cited prior art. Currently, claims 1 and 5- 45 are pending, with claims 6-44 withdrawn from consideration.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 5, and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Yokoyama et al. (US4880687).

4. Claim 1 requires a coating made of a film formed on the basis of at least one polymer material that includes at least one property changing component embedded in a matrix of the polymer material, the film comprising several layer-like areas, at least one of which contains the property changing component, wherein a concentration of the property changing component varies in a direction of a thickness of one of the layer-like areas, wherein the coating is disposed on a workpiece

5. The examiner acknowledges that while it is the duty of the examiner to interpret the claims in light of the specification, it is also the duty of the examiner to give the claims their broadest reasonable interpretation. Bearing this in mind, the examiner has interpreted the limitation requiring a "property changing component" in claim 1 to require a polymer film to contain a material that changes any property of that polymer film, i.e. hardness, lubricity, magnetization characteristics, crosslink density, etc... Further, the

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examiner interprets "several layer-like areas" to mean that at least 2 individual layers, or 1 individual layer with at least 2 layer-like regions (i.e. a lower region of low crosslink density and an upper region of high crosslink density) is required. Finally, the examiner interprets "work piece" to simply require that the coating be deposited on a substrate. The term "work piece" is very broad and does not require that the work piece be anything other than a layer underneath the coating.

6. Bearing the above interpretation in mind, Yokoyama et al. (Yokoyama) teaches a magnetic recording medium comprising a non-magnetic substrate 2 (equivalent to applicants work piece), an undercoat layer 3 on the substrate, an intermediate layer 4 on the undercoat layer, a magnetic layer 5 on the undercoat layer, a protective layer of metal 6 on the magnetic layer, a protective layer of carbon 7 on the protective layer of metal, and a topcoat layer 9 on the protective layer of carbon. It is noted that the substrates taught by Yokoyama are made from aluminum or aluminum alloys (column 12, lines 64⁺). Additionally, in one embodiment, plasma polymerized films 71 and 75 are deposited just above and just below the protective carbon layer (column 3, lines 20-40 and figure 1).

7. The plasma polymerized films 71 and 75 are formed essentially from carbon and hydrogen (column 3, lines 50-55). Further, the topcoat 9 is formed from fluorene containing polymers, such as tetrafluoroethylene polymers and fluorocarbon resins (column 6, lines 50-60). The examiner considers the polymer based plasma polymerized films 71/75 and the polymer based topcoat 9 to be equivalent to the applicants claimed film having multiple layer-like areas. Further, Yokoyama teaches in a

preferred embodiment, the topcoat layer is formed such that the concentration of fluorine continuously or discontinuously increases toward the surface of the topcoat layer (column 15, line 54-column 16, line 10). The presence of a large amount of fluorine at the surface of the topcoat improves the durability of the film (column 16, lines 5-7). Thus, given that Yokoyama teaches that the concentration of fluorine in the topcoat layer impacts the durability of the film, the fluorine in the topcoat layer is equivalent to applicants claimed "property changing component." Further, as the concentration of fluorine changes over the thickness of the topcoat film, the requirement in claim 1 that the concentration of the property changing component in one of the layer-like areas changes in a direction of thickness of one of the layer like areas is met. Thus, all of the requirements of claim 1 are clearly anticipated by Yokoyama.

8. The limitations of claim 5 require individual layer like areas arranged next to one another to follow the contours of a basic material, whereby an interface between each two different layer like areas runs crosswise to the surface contours of the basic material.

9. With respect to the limitations of claim 5, it is the examiners position that the plasma polymerized layer 75 and fluoropolymer based topcoat 9 taught by Yokoyama are equivalent to applicants claimed layer-like areas arranged next to one another, as these layers are shown to be adjacent one another in figure 1. With respect to the requirement of a base material, the examiner interprets all of the layers below the plasma polymerized layer 75 as shown in figure 1 of Yokoyama to be equivalent to applicant's claimed base material. As clearly shown by figure 1, the plasma polymerized

layer 75 and topcoat layer 9 clearly follow the contours of the layers below the plasma-polymerized layer 75. Thus, all of the limitations are claim 5 are clearly anticipated by Yokoyama.

10. Claim 45 requires the work piece to be suitable for application in food and pharmaceutical industries, environmental protection, connection and drive technology, shipping, fluid energy systems, or the chemical and automobile industries.

The limitations of claim 45 are intended use limitations and do not appear to be further limiting in so far as the structure of the product is concerned. "[I]n apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963). See MPEP § 2111.02.

11. First, the end uses required by claim 45 do not impute any structural limitations to the work piece. Thus, **any** work piece/substrate reads on the claim. Thus, the limitations of claim 45 are met as set forth above for claim 1. Further, because the substrate of Yokoyama is made of aluminum or aluminum alloy, it would be generally suitable for the above end uses. As set forth above, the substrate of Yokoyama is the substrate of a magnetic recording media. Magnetic recording media are commonly used in food, pharmaceutical, automobile, and chemical industries to store data. Thus, the substrate of Yokoyama meets the work piece limitations of claim 45.

Response to Arguments

12. Applicant's arguments filed 4/07/2004 have been fully considered but they are not persuasive.

13. First, applicant argues that claim 1 is directed to a coating disposed on a work piece, "wherein the work piece is suitable for application in food and pharmaceutical industries, environmental protection, connection and drive technology, shipping, fluid energy systems, or the chemical and automobile industries." The examiner respectfully disagrees.

14. Regardless of what the specification may or may not be directed to, the claims only require a polymer coating containing a property-changing component disposed on "a work piece." "A work piece" is very broad language, and does not require any particular material or use of the work piece. Thus, **any** substrate made of **any** material reads on the claimed work piece. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The examiner maintains that the applicant **has not** required any of the asserted work piece limitations in claim 1 or 5.

15. The applicant argues that one of ordinary skill in the art, reading the specification as a whole, would realize that magnetic recording substrates are different than the claimed work piece. The examiner disagrees. The substrate of Yokoyama is made of aluminum or an aluminum alloy. The Applicants own arguments admit that work pieces meeting the above-recited end uses are typically metals known in the mechanical

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engineering art. Specifically, the applicant's have stated in their arguments that "such work pieces are typically made of metal or other base materials known in the mechanical engineering art." While the examiner maintains that aluminum and aluminum alloys are extremely well known in the mechanical engineering art, proof of this fact is evidenced by The Mechanical Engineering Handbook, edited by Frank Keith, © 1999, Chapter 12, pages 12-1-12-2. Specifically, the Mechanical Engineering Handbook states, "The two most abundant metallic elements, iron (5.0%) and aluminum (8.1%) **are also the most commonly used structural materials.** Further, the substrate of Yokoyama is the substrate of a magnetic recording media. Magnetic recording media are commonly used in virtually every major industry to store data, and thus would be suitable for use in the above-recited end uses.

16. Finally, the examiner notes that the instant specification does not even limit the work piece to the end uses ascribed by the applicant. Specifically, page 5, paragraph 1 of the specification merely lists the above-recited end uses as "potential applications."

17. Thus, applicant's arguments with respect to the work piece are not persuasive.

18. The applicant's remaining arguments stem from the work piece argument addressed above. Accordingly, these arguments are also unpersuasive.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhler whose telephone number is 571-272-1517. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J. Thibodeau can be reached on 571-272-1516. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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